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ABSTRACT

The results of an evaluative study made of the 1969-70 North Carolina statewide kindergarten program for five-year-olds are presented. The subjects of the study were 317 children in eight early childhood demonstration centers (Experimental Group) and 52 children who did not attend kindergarten (Control Group). A pre-post test evaluation design was used. The tests used were Draw-a-Man, The Cooperative Preschool Inventory, and the TOBE tests of knowledge of concepts in the areas of language, mathematics, social studies, and science. Test data were analyzed by computation of means and standard deviations and t tests of the significance of differences and correlations. The study results showed that children made significant gains during the 5-month attendance at kindergarten and that test performances at the end of school were significantly higher than those of the control group. There was a strong relationship between test scores and socioeconomic data. Differences between boys and girls were seldom significant. Appendixes present the Classroom Behavior Inventory sample, Development of Short Form Home Information Scale, Draw-a-Man, Student Profile, Characteristics of Demonstration Center Programs, and a Map of Early Childhood Demonstration Centers (in North Carolina). (CK)

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NORTH CAROLINA STATE SUPPORTED

EARLY CHILDHOOD DEMONSTRATION CENTERS

FIRST ANNUAL EVALUATION

1969-70

PS 005010

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CHAPTER I

Introduction

CHAPTER I

Introduction

One million dollars was appropriated by the North Carolina Legislature for the 1969-71 biennium to begin state supported educational programs for five year old children. The State Department of Public Instruction and the State Board of Education chose to use these funds to begin, throughout North Carolina, a network of Early Childhood Demonstration Centers that would provide model programs for young children, five to eight years of age. The long range goal of such an approach was to expand a new educational enterprise of early childhood education throughout North Carolina.

Eight school units were selected to institute the first early childhood demonstration centers in December, 1969. Each unit enrolled 40 five-year-old children in its kindergarten. These centers were charged with carrying out the following functions:

1. Develop and implement kindergarten programs as an integral part of effective educational programs for young children, ages 5-8.
2. Develop, in cooperation with higher education institutions, effective training programs for professional and paraprofessional personnel.

3. Directly involve parents in the development and implementation of such programs.
4. Develop ways and means of interagency collaboration and cooperation (with regional agencies for health, mental welfare, and welfare) in serving the needs of young children.
5. Develop comprehensive and effective programs of evaluation for each aspect of the program.
6. Provide information about the program for dissemination throughout the State.

The State Department of Public Instruction and the Learning Institute of North Carolina entered into a contractual arrangement for the Research and Evaluation Department of the Learning Institute of North Carolina to evaluate the 1969-70 statewide kindergarten program.

The results of the first year of the study are presented in this report.

CHAPTER II

Design of the Evaluation Study

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Design of the Evaluation Study

Population and Instrumentation

The design by the Learning Institute of North Carolina for the kindergarten study paralleled the design of the operation of the eight early childhood demonstration centers throughout the state. All children who applied for entrance into one of the eight centers became a part of the total study population. Those who were chosen by stratified random sampling to enter the kindergarten program became the experimental or treatment group, other applicants were a part of the control group.

A schematic presentation of the evaluation design takes this form:

E_R O_1 ——— K ——— O_2

C_R ——— O_3

were:

E_R = Randomly selected experimental group

C_R = Randomly selected control group

K = Enrollment in State kindergarten program from December, 1969 to May, 1970

O_1 = Fall Kindergarten Assessment Battery which included:

A. Home Information Scale (HIS)

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B. Test of Basic Experiences (TOBE)
California Test Bureau/McGraw Hill:
1. Language (L)
2. Mathematics (M)
3. Science (S)
4. Social Studies (SOC)

C. Draw-a-Man Test, scored by Julia Vane Kindergarten Test method*

D. Preschool Inventory (Experimental Edition, 1968): Educational Testing Service, Princeton, N.J.

E. Classroom Behavior Inventory, adapted from Schaefer and Aaronson**

(Note: a brief review of these instruments and copies of the non-published ones are included in the Appendix.)

O_2 = Spring Kindergarten Assessment Battery
(B, C, D & E from above list)

O_3 = Spring Control Group Assessment Battery
(B, C, & D from above)

The number of children in the Experimental group was 317. A problem arose in the implementation of the design as far as the number of children in the Control group. In many cases students who became a part of the control group were subsequently enrolled in another preschool program and were therefore dropped

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* See Julia Vane, "The Vane Kindergarten Test", Journal of Consulting Psychology, Monogr. Series #2, 1968.

** Earl S. Schaefer and May Aaronson, National Institute of Mental Health, Washington, D. C.

from the groups. Others were not available for spring assessment. As a result we were able to get only 79 students tested for the Control group.

Subsequently at the time when the data could be analyzed it was found that these 79 constituted a group significantly different from the Experimental group on our measure of advantages in the home environment, the Home Information Scale (HIS). The mean score on the HIS for the Experimental group was 39.8. The mean for the Control group was 35.1. This difference of 4.7 points was found to be significant at the .05 level of confidence.

Another analysis indicated important differences between the Experimental and Control groups, and that was in racial and sex compositon. Table 1 presents the distributions by sex and race groups.

The figures in Table 1 indicate that this group of Controls had higher percentages of non-white and higher percentages of males than the Experimental group. Both of these tend to score lower on tests than their counterparts.

Therefore, a group was chosen from these 70 Controls to make a group more nearly equivalent to the Experimental group. The HIS scores, sex and race were used as criteria in this selection. This resulted in a new Control group which numbered only 52, but it more nearly resembled the Experimental group. The mean HIS score for the new Controls was 39.9, almost exactly equivalent to the Experimental group's mean of 39.8.

TABLE 1

SEX AND RACE DISTRIBUTION OF STUDY GROUPS

EXPERIMENTAL

	Non-white		White		Total	
	No.	Percent	No.	Percent	No.	Percent
Boys	49	15.5	114	36.0	163	51.5
Girls	53	16.7	102	32.2	154	48.9
TOTAL	102	32.2	216	68.2	317	100.4

CONTROL

	Non-white		White		Total	
	No.	Percent	No.	Percent	No.	Percent
Boys	20	25.3	25	31.6	45	57.0
Girls	19	24.1	15	18.9	34	43.0
TOTAL	39	49.4	40	50.5	79	100.0

Table 2 shows the new Control group's racial and sex composition; with percentiles for the Experimental group appearing in parentheses.

Inspection of the Table shows that as far as total percentages are concerned, the groups are very similar. The figures given for Control group performance when results are reported in later sections refer to this equated Control group numbering 52 children.

Data Analysis

Statistical treatment of the data included the computation of means and standard deviations, t tests to test for significance of differences and correlations.

TABLE 2

SEX AND RACE DISTRIBUTIONS OF THE EQUATED CONTROL GROUP

	Non-white		White		Total	
	No.	Percent	No.	Percent	No.	Percent
Boys	6	11.5 (15.5)	20	38.5 (36.0)	26	50 (51.5)
Girls	13	25.0 (16.7)	13	25.0 (32.2)	26	50 (48.9)
TOTAL	19	36.5 (32.2)	33	63.5 (68.2)	52	100 (100.4)

CHAPTER III

The Kindergarten Program

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The Kindergarten Program

The description of what the kindergartens were like-what the "experimental treatment" consisted of-is a collection of many things and too lengthy to report in full here. To give some of the flavor, the next few pages will present a reporter's description of his visit to one of the demonstration kindergartens*:

"In kindergartens children play. Little girls tend their dolls, as their mothers tend them. Little boys build with blocks emulating their fathers whose blocks may be sheets of paper, thoughts, or even real building materials. It is only when man tires of his building or tending that 'play' becomes an activity to fill his leisure hours rather than the stuff of living.

Kindergarten children haven't learned to tell the difference. They play and learn and love it. They haven't lived long enough to find that the tending and the building, let alone the learning, are supposed to be apart from 'play' and less than frolic.

That's the interesting thing about kindergartens: the so-called play. At the Southern Pines Elementary School's kindergarten in Moore County, for example, the two kindergarten rooms are filled with colorful 'playthings.' Small furniture miniatures

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* From North Carolina Public Schools, Vol. 34, No. 9, May, 1970, pp. 8.

adult kitchens and dining rooms are complete with miniature fruit, vegetables, knives, forks, and plates. A tiny store fills one corner, a house another. Dolls with zippers, buttons, and lacing devices as well as dress-up clothes are there for make-believe that is not quite fantasy.

In another corner, free of the thick carpeting that turns even the floor into a play area, small easels stand with smocks hung beside them. Wide windows bring the outside in, and, of course, there's music. 'The Song of the Colors' comes from a record player, and a tiny parrakeet, tended each day by a different pair of hands, sings along with it.

Add to it all 40 five-year-olds -- split between the two rooms -- a teacher and an aide, and you have what looks like the land of the Lilliputians with two female Gullivers. The adults look out of place. They're not, of course. Their skill is attested to by the fact that the children, and not they, are the center of attention. 'Child-oriented,' the initiated would say.

In the center of the two kindergarten rooms is an observation facility with see-through glass on two sides and listening equipment so that visiting teachers and parents may hear what's said in the kindergarten rooms. They find it fascinating. But can't exactly agree on what 'it' is.

With the 'Song of the Colors,' for example, the children rise and dance in sequence as they sing with the record, 'Red get up,' or 'Green get up' and so forth.

'Oh,' says one visiting teacher, 'the chairs are different colors. That's how they're all getting it so fast.' She's amazed and may go back to her own classroom and devise a chair game of her own.

Another teacher watches a small child offer her friend newly 'cooked' popcorn. 'It's soft,' the child says, pinching a piece which, by the way, falls in crumbs to the floor. The kindergarten teacher doesn't notice, it appears.

'Yes, but it was hard before,' the little friend replies. They look at one another with something akin to discovery as their kindergarten teacher beams. The visiting teacher sighs. Later she'll hear from that teacher how much work--time, patience, and imagination--it took to help the children develop their speaking skills, their concepts, their minds, and bodies. 'But, of course, it's not work to the children. Or rather, they aren't aware of the concept yet,' says the kindergarten teacher.

'To me the most interesting thing is the freedom,' says another visiting teacher. 'At home they're told to Put this away, or, Pick that up, or, Don't make so much noise. And at most schools we tell them to sit in their desks, and we scowl when they're loud or they drop something.'

'Children need freedom. Not to be destructive, you understand. But just to be free to express themselves,' she said.

'Yes, but you've got to have the materials to be free with,' says another teacher eyeing the colors, the carpet, the equipment with envy. 'You can't expect to get this kind of activity and involvement in a room with nothing but desks and books that might

be beyond some of the children's level of understanding,' she said.

Another said it was attitude. 'It's an attitude that we all need. Why should it be confined to young children? I know that because they're young, everything is new and exciting. But does this attitude have to die? It's something we all need."

This article indicates that the demonstration centers are implementing the philosophy expressed by J. W. Jenkins, the supervisor for Early Childhood in North Carolina's State Department of Public Instruction:

> If and when good kindergarten programs, which encourage greater initiative and more intellectual curiosity among children, are established in North Carolina schools, primary teachers and administrators must prove their willingness and ability to innovate. In well-run preschool programs, children are free and actually encouraged to play, to learn by action, to touch, to handle, to build, tear down, and to observe.
>
> The primary grades, which offer some incentives in this direction, often give way to sitting, reading, and writing; and crowd out the doing, the bodily action, the playing, the manipulating of things, objects, and tools.
>
> Once we fully realize and understand at least two of the more basic characteristics of children--(1) they are physically active organisms, (2) they are naturally inquisitive--we can then gear programs according to their interest level. As a result, intellectual boredom can be greatly reduced or possibly eliminated.
>
> As State supported early childhood education programs are developed, they will be designed to emphasize problem solving, creativity, decision-making, manipulative activities, self-image development, and a joy and love for learning.

An interview with Mr. Jenkins reported in North Carolina Education* presents answers to many questions about the program.

Here are some of them:

Q.: Where do we stand now, Mr. Jenkins, insofar as the pilot kindergartens are concerned?

Ans.: As you know, the 1969 General Assembly allocated $1 million to be spent during the biennium to develop a pilot kindergarten program. These funds are being used in 18 early childhood education demonstration centers in each educational district of the state.

Prior to opening the first center, State Board of Education adopted six basic criteria. The first of these was "to develop and implement kindergarten programs as an integral part of effective educational programs for young children, ages 5-8." This is probably the most important objective of the total program....

Q.: Why did you put particular stress on this objective?

Ans.: Because the kindergartens, according to the State Board, were not to be isolated. They were to be a part of an organized primary school program. The need to develop a non-graded type program for children, ages 5-8, was felt strongly.

Q.: Were all 18 centers placed in operation last year?

Ans.: No. During the 1969-70 school year, eight demonstration centers were allocated to eight county and/or city administrative units. They began operation on December 1, 1969. An additional 10 centers will be in operation during the 1970-71 school year. As now envisioned, each of the 18 demonstration centers will become a major regional training resource as the state develops its kindergarten program and as the concept of the ungraded early childhood unit gains acceptance.

Q.: How was the staff selected for these pilot kindergarten programs?

Ans.: The staff was selected by officials of the administrative units. These officials attempted to choose people who had some experience in working with young children. In most

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* From North Carolina Education, October, 1970.

cases, successful applicants were primary education oriented. The staff took a two-week in-service training course at Greensboro prior to the opening of the first Centers. Two teachers and two aides (teacher assistants) were employed to work with each group of 40 children. That means there were only 16 teachers and 16 teacher assistants involved. However, during the training session the principal and supervisor participated in the training program.

Q.: Did you have an evaluation process established prior to beginning the kindergarten operation?

Ans.: Yes, an evaluation design was set forth. The objective was "to demonstrate whether or not kindergarten experiences have sufficient positive effects relative to children with no kindergarten experience."

Q.: Has the multi-age grouping approach used in these Centers been successful?

Ans.: We are aware that no one organizational pattern meets all educational needs, but it is our belief that multi-age grouping may well serve as an organizational model for implementing a natural approach to teaching young children. This approach is applicable to not only those identified in the "normal" range, but also to those having handicapping conditions.

Multi-age grouping is a form or organization which spans a period of chronological years (in this instances, ages 5 through 8), which encompasses a variety of maturity levels and a vast unity of experiences. This can be classified as the "continuous progress approach to education."

Q.: Were other evaluation procedures used?

Ans.: Yes, subjective information was collected during the spring when parents were asked their opinion of the kindergarten program. In answer to the question, "Do you recommend that the State of North Carolina spend the necessary money to provide this kind of experience for all five-year-olds?" one parent replied: "Yes, to the extent, if necessary, of removing the 12th grade in order to get this early childhood education."

Q.: What will the situation be during the 1970-71 school year?

Ans.: There will be 18 kindergarten demonstration centers operated in each of the eight education districts of the state.

The same type evaluation--with some alterations, of course--will be followed in test procedures.

"Characteristics of Demonstration Center Programs," reprinted in Appendix F, gives some additional details as to the organization and program of the kindergartens.

CHAPTER IV

Results of the Study

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Results of the Study

Test Results

The first results to report are those which bear upon the effects of attendance in these kindergarten classes upon the 317 five-year-old children who constitute the Experimental group. Their scores at the beginning (December, 1969) will be compared with their scores at the end of kindergarten attendance (May, 1970). Their scores at the time of the final, May, testing will be compared with those of children who did not attend kindergarten, the 52 Control group children. Scores will be compared for performances on these tests:

(a) Draw-a-Man test, a test commonly employed to assess intellectual ability of a perceptual-motor kind.

(b) The Cooperative Preschool Inventory, an individual test tapping the areas of vocabulary, number concepts, perceptual motor skills, and ability to follow directions.

(c) The TOBE tests of knowledge of concepts in four subject-matter areas, each tested by a separate test booklet:

Language

Mathematics

Social Studies

Science

Draw-a-Man

At the beginning of kindergarten attendance, In December, 1969, the Mean score for the 317 children in the Experimental group was 8.3 points, a score equivalent to a mental age of 5 years-2 months This was well below their average chronological age of 5 years-8 months.

In May after five months of kindergarten, their mean score was 11.5 points, equivalent to a mental age of 5 years-11 months. This growth of nine months brought their mental age much closer to their chronological age, which by May had reached 6 years-1 month.

If we expect normally five months of growth in mental age to occur during five months of time, the actual gain of nine months is clearly more than this expected growth, and the difference significant at the .01 level of confidence.

The average score of the control group in May was 10.2 points. The chronological age is the same. The equivalent mental age is 5 years-8 months, three months of mental age below that of the experimental group at that same point in time, but higher than the experimental group's December performance, and not significantly different from either.

(Insert Table 3 here)

Preschool Inventory

On the Preschool Inventory, a test of several kinds of knowledge and behavior administered to each child individually, the Experimental group showed a gain of 11 points between December

TABLE 3

Comparison of Performances of Experimental Group
at Pre- and Post-Testing
and
Experimental and Control Groups
at the Time of Post-Testing on All Measures

	N	Chronological Age In Months	Home Information Scale	Draw A-Man Test	Preschool Inventory	Teacher Ratings of Child Behavior: Extroversion Introversion	Positive Social Behavior	Positive Task Orientation
Pre Dec 1969								
EXPER	317	67.9	39.5[1]	8.3	46.1	9.8	8.9	4.3
		4.0	9.3	4.2	10.6	14.5	11.6	11.7
POST May 1970								
EXPER	309	73.0	(not	11.5[2]	57.1[2]	14.5	12.3	9.7
		3.9	available)	4.3	7.2	11.9	10.2	10.3
CONTROL	52	72.6	39.9	10.2	8.3	(n o t a v a i l a b l e)		
Differences between Experimental Group May and Control Group May		Not Significant	Not Significant		Significant at the .01 level of confidence			

1 N = 117

2 N = 213

and May. As Table 3 shows, their mean score at the beginning of kindergarten was 46 points, out of the total possible score of 64. This mean score rose to 57 points by May.

The Control group average for the May testing was 48.3, nine points below the experimental group's average of 57. This difference is significant at the .01 level of confidence. The mean score for the control group is, however, two points higher than that of the experimental group five months before. This is as it should be, since the entrance point, five months younger than the control group children when they were tested in May.

TOBE Tests

The children were tested for a knowledge of subject matter in four different areas: Language - Mathematics - Science and Social Studies. The Test of Basic Experiences (TOBE), Level K, from California Test Bureau/McGraw Hill, were used for this purpose. These were a part of the battery with the Draw-a-Man and Preschool Inventory tests, for experimental group pre- and post and for the control group at the post-test point.

(Insert Table 4 here)

The results of the performances on these tests are presented in Table 4. The gains made between pre- and post-tests by the Experimental group children are great enough to reach the .01 level of confidence for all four tests. With a total possible score of 28 for each of the four booklets, the pre-post gains in total group mean during kindergarten attendance were like this: Language, from 15.3 to 20.7; Mathematics, from 16.8 to 20.4; Science, from 17.2 to 21.0; and Social Studies, from 15.6 to 20.7.

TABLE 4

TOBE Test Performances Means and Standard Deviations of
Experimental Group Pre- and Post-Kindergarten
and
Control Groups at Post-Testing

	N		Language	Social Studies	Mathematics	Science
Pre Dec 1969						
EXPER	317	X_1	15.3	15.6	16.8	17.2
		σ	4.6	5.1	4.6	4.7
POST May 1970						
EXPER	309	X_2	20.7	20.7	20.4	21.0
		σ	4.0	4.3	3.8	4.5
$X_2 - X_1$			5.4	5.1	3.6	3.8
CONTROL	52	X_3	16.1	16.0	17.0	17.3
		σ	4.8	5.2	4.6	4.8
$X_2 - X_3$			4.6	4.7	3.4	3.7

All mean score differences are significant at the .01 level of confidence, between pre- and post-tests of the Experimental group and between Experimental and Control mean scores at the May testing.

The percentile equivalents, as given in the Test Manual for TOBE Level K tests, are presented on Figure 1.

Insert Figure 1 here)

The differences between the experimental and control group performances at the time of the May testing also are large enough to reach the .01 level of confidence. As Table 4 shows, the experimental group exceeded the control group by 4.5 points on Language, 3.5 points on Mathematics, 3.7 points on Science, 4.7 points on Social Studies.

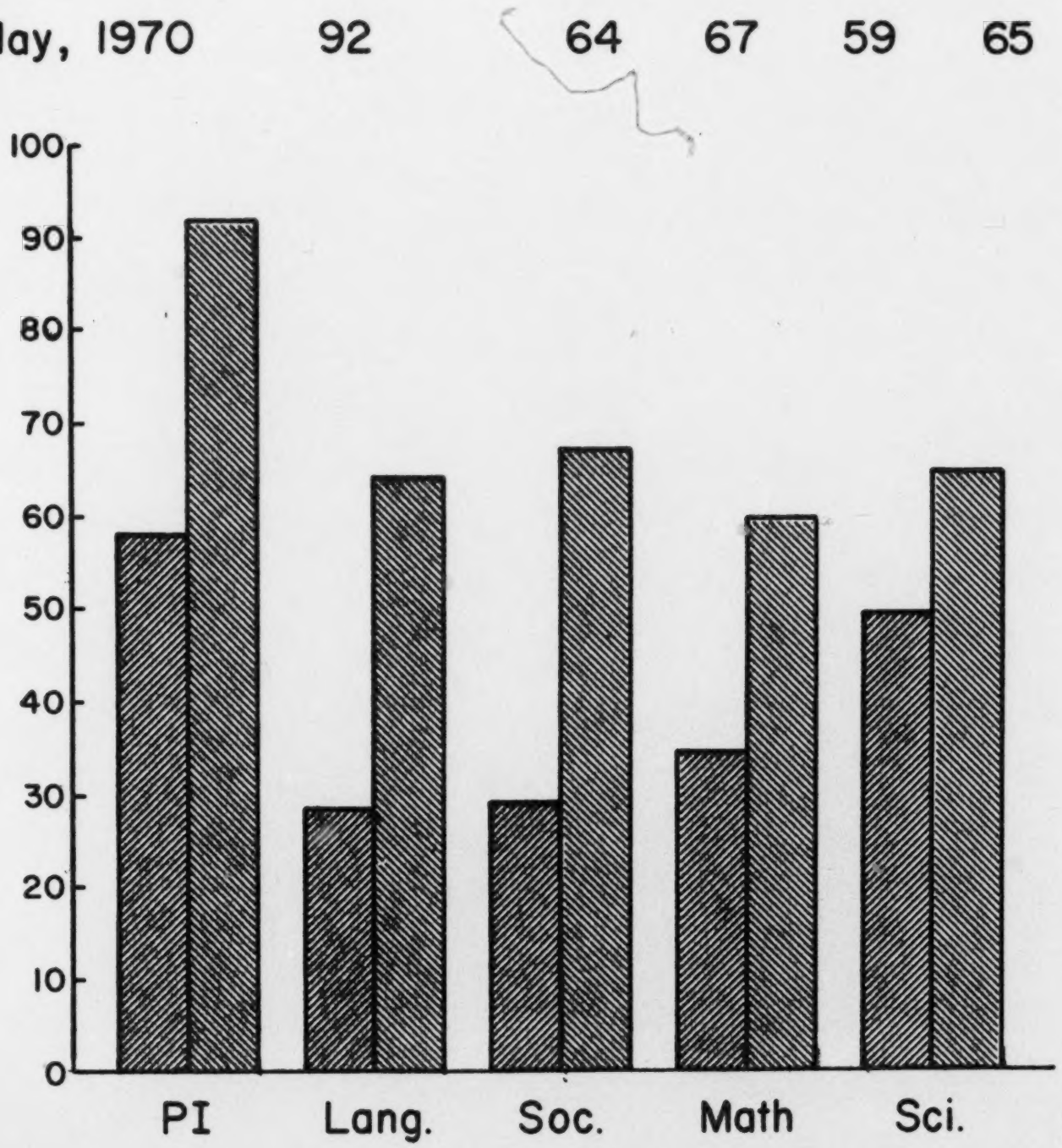
How Test Scores are Related to Home Environment Differences

At the time of entrance into kindergarten the teacher or assistant teacher interviewed the mothers of the children who were to attend kindergarten and filled out an interview schedule called the Home Information Scale. This form appears in Appendix B. It is adapted from a form called the Cognitive Home Environment Scale, developed by the Perry Preschool Project staff in Ypsilanti, Michigan, on the basis of a form previously constructed by the Ypsilanti staff. A scale for scoring the responses was developed to give a quantitative figure for differences in educational advantages present in the child's home environment. This is composed largely of the usual indices of socioeconomic status like education of parents and objects owned by the family, but it is supplemented by other child-education-related items like visits to the library and how often the mother reads to her child.

FIGURE 1

Percentile Scores for the Preschool Inventory and TOBE Tests - Experimental Group

	Preschool Inventory	TOBE Lang.	TOBE Soc.	TOBE Math	TOBE Sci.
Dec., 1969	58	28	29	34	49
May, 1970	92	64	67	59	65



Scores on the Home Information Scale (HIS) have already been referred to in describing the experimental and control groups[1]. An important finding for our research was that there was no statistically significant difference between the experimental and the control group (once equated with the experimental group) on the HIS. The calculated value of t equalled 1.02, when t (125, .10) = 1.66. This result supported the assumption of equivalent populations, i.e., the random selection of children was successful from the point of view of the score for level of home environment of the children.

Our investigations have shown a strong relationship between the test scores and the HIS. This relationship is shown most strongly on the TOBE test scores, which are summarized in Figure 2. In no case in post-test average does a group with a lower mean on HIS score as high as a group with a higher HIS mean score. The same pattern holds true with the Preschool Inventory performances. It is not true for the Draw-a-Man, and this itself is interesting since this measure is probably in fact less possible to change by adding environmental advantages.

In many programs it has been found that those who are in a higher socioeconomic group will not only show a higher final test score but will also gain more from the educational experience than the lower socioeconomic groups. It is encouraging in this connection to note that, as Figure 2 indicates, all of these groups of children gained approximately the same amount on the TOBE tests,

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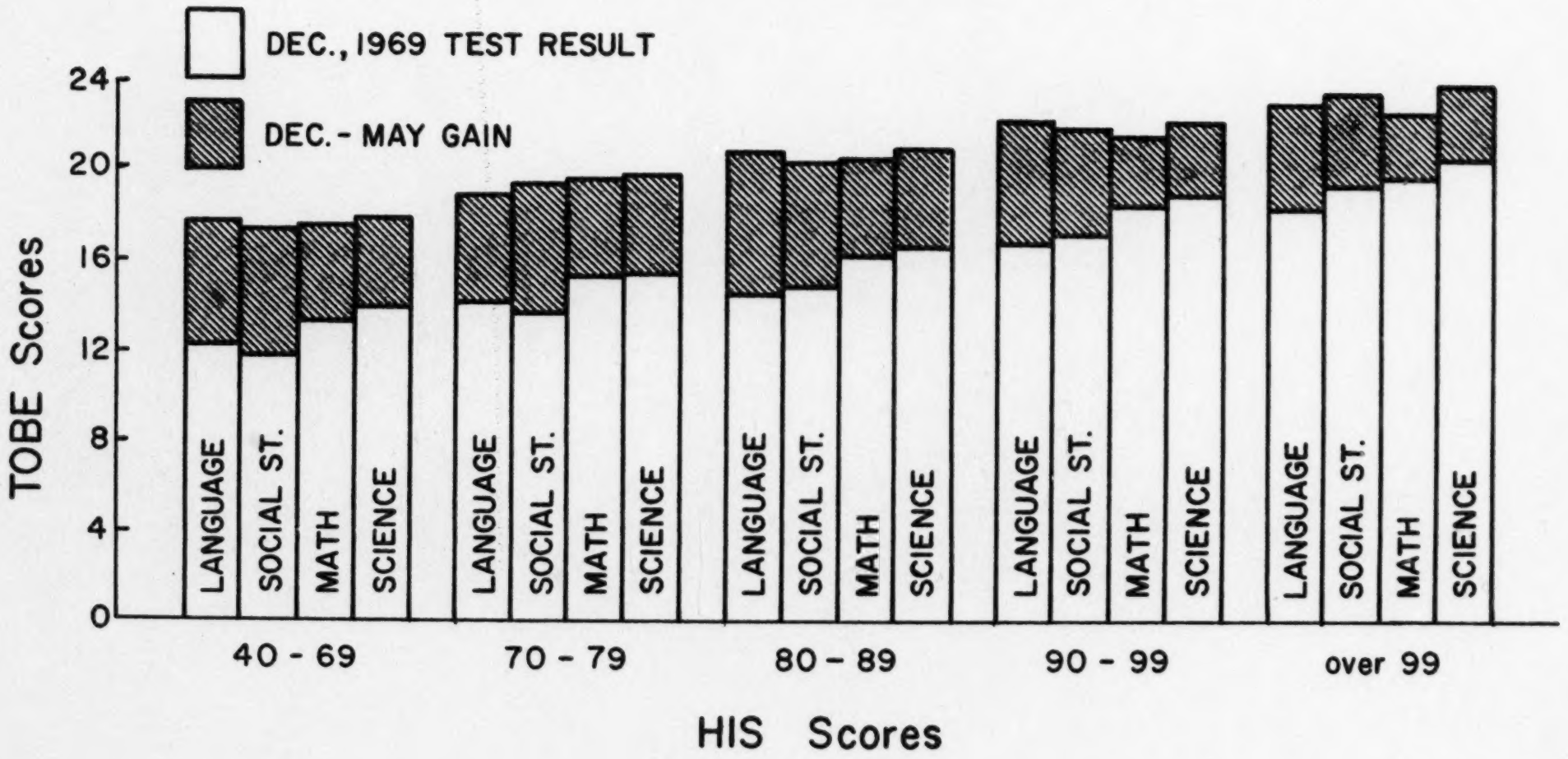
[1] The HIS was shortened after the December pre-testing by removing essentially those items which had low correlations with the total score. This change accounts for the fact that on some of the tables the data are based on a mean score of 86 (the original) and on others on the new mean of 39.8 (the shortened form only).

FIGURE 2

PERFORMANCES ON TOBE TESTS
BY GROUPS WITH DIFFERENT HIS SCORES
- PRE-TEST, GAIN, AND POST-TEST AVERAGES -



and, if anything, the three groups at the middle and lower end of the scale gained a little more than the two at the top.

Furthermore, as Table 4 indicates, there are significant differences between some classrooms on the HIS. The 16 kindergarten classrooms (two apiece in the eight demonstration centers) are ranked in order, on the original scoring system, on Table 4. Scores varying by more than 9.6 points are significantly different at the .05 level of confidence. This means that a classroom group differs from those classrooms approximately half the range of the distribution above and/or below it.

(Insert Table 4 here)

Sex Differences

There are differences in mean test scores when the experimental group data is analyzed by sex. Table 5 presents these differences. In all cases of significant differences females scored higher than males. On the Preschool Inventory the girls scored higher than the boys in both December and May. The December difference in the means of 3.2 points decreased to 1.8 points by May. The December difference was significant at the .01 level, while the May difference was not significant at .05. On the Draw-a-Man, the differences again decreased from December to May, but in this case both were significant at the .01 level.

(Insert Table 5 here)

Only on the TOBE tests were there no significant differences between sexes in December or May. Original scores, amount of gain and, of course, final scores were very similar for boys and girls.

TABLE 5

HIS Classroom Means in Rank Order
(original scoring system)

	1	95.0
	2	92.9
	3	92.3
	4.5	89.3
	4.5	89.3
	6	89.0
	7	88.8
	8	88.4
State Mean	86.2	
	9	85.8
	10	85.4
	11	84.3
	12	82.2
	13	81.2
	14	79.4
	15	77.9
	16	76.6

A difference of 9.6 is significant at the .05 level

Clearly the TOBE tests are tapping different areas of performance and capability from those tapped by the Draw-a-Man and the Preschool Inventory.

Observational Findings

In order to obtain information about further kinds of changes which kindergarten attendance makes for children, data from observation of the children's behavior was collected at the beginning and at the end. This was done by means of rating scales developed from the Classroom Behavior Inventory formulated by Earl S. Schaefer and May Aaronson of the National Institute of Mental Health.

One of these was filled out by the child's teacher. A copy of this, the Teacher Rating of Child Behavior appears in Appendix A. The other in this appendix is a parallel form for observation of the child in the classroom. Both provide information on twelve variables which are related, according to Schaefer, to three factors important for mental health and school achievement. These factors are: (1) Extroversion-Introversion; (2) Positive Social Behavior; (3) Positive Task Orientation. Schaefer's schematic representation appears in Appendix A.

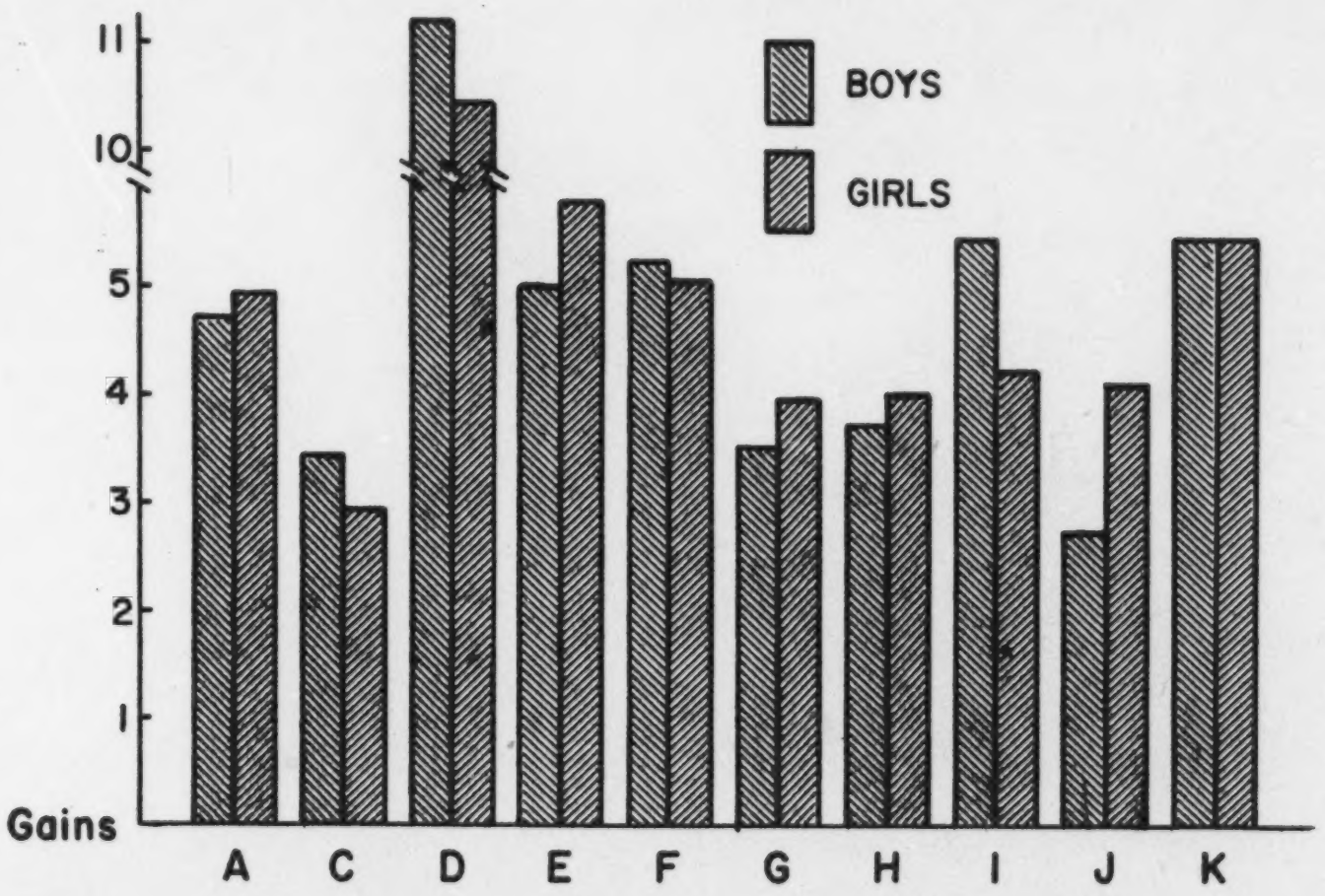
The teacher ratings and observer data collected seem to support each other. Table 6 shows the gain scores made between December and May in each of the twelve categories of the Classroom Behavior Inventory. Both teacher ratings and LINC observation ratings are given. The catagories are arranged so that a positive behavioral trait is followed by a negative trait. It is clear that

TABLE 6

Sex Differences in Experimental Group
on All Variables
for Pre-Test, Post-Test and Gains Scores

SEX DIFFERENCES

		Boys			Girls		
		Pre-Test	Post Test	Gain	Pre-Test	Post-Test	Gain
A	AGE	67.8	73.1	4.7	68.0	72.9	4.9
B	HIS	86.1	--		86.2	--	
C	D-M	7.2	10.6	3.4	9.5	12.4	2.9
D	P-I	44.5	56.3	11.2	47.7	58.1	10.4
E	TOBE-L	15.6	20.6	5.0	15.0	20.8	5.8
F	TOBE-S.S.	15.6	20.8	5.2	15.6	20.5	5.1
G	TOBE-Math	16.8	20.3	3.5	16.7	20.6	3.9
H	TOBI-Sci	17.5	21.2	3.7	16.9	20.9	4.0
I	EXT-INT	8.7	14.1	5.4	10.7	14.9	4.2
J	Pos. Soc. BEH	8.1	10.8	2.7	9.8	13.9	4.1
K	Pos. TASK ORIENT	3.2	8.6	5.4	5.4	10.8	5.4



the teachers perceived a consistent improvement in the positive characteristics, with a consistent decrease in negative behavior.

Although there is a difference in magnitude, the changes noted by the LINC observers show the same pattern as the teacher ratings. The Spearman Rank correlation between the ratings and the observations is .713, which is significant at the .01 level of confidence.

Correlations of the Variables

Correlations of Home Information Scores with Test Performances

The results previously reported relating to the HIS home environment measure are strongly supported by the correlation data. Correlations between the Home Information Scale and all other information were done on the basis of December data, and the same was done for two of the TOBE tests for May data. The Pearson correlations of the HIS scores with the various test measures are as follows:

	Number	Preschool Inventory	TOBE Lan.	TOBE Soc.	TOBE Math.	TOBE Sci.
Pre-Test	111	.59	.45	.53	.48	.54
Post-Test	294	*	.46	*	.44	*

* = These correlations are not available.

With 111 children, all of the above correlations are significant at the .01 level. This indicates again the highly

significant relationship between the test performances and the home environment of the child. It is interesting to note that these correlations remained quite stable over the five months of the program, a fact which suggests that the kindergarten program was more or less equally effective with children from all levels of home environment.

Correlations between Tests and Behavior Ratings

Each of the factors of the Classroom Behavior Inventory was correlated with the children's test performances. The Pearson correlations (for the December, 1969, testing) are as follows (N was 111):

FACTOR	Preschool Inventory	Draw-A-Man	T O B E Lang.	Math
Extroversion	.38	.26	.31	.30
Positive Soc. Behavior	.10	.04	.01	.12
Positive Task Orientation	.30	.22	.16	.29

From these correlations it appears that the Behavior factor which correlates with achievement tests is the factor of Extroversion. Certainly Positive Social Behavior is consistently close to a condition of "no relationship," and Positive Task Orientation, at this beginning point, is approaching the Extroversion factor in the magnitude of correlations with test performances.

Correlations between Draw-a-Man and Other Tests

The correlations between the pre-test and post-test performances on the Draw-a-Man test, more nearly than the others, a test with

little environmental influence, and the tests which appear to be more capable of indicating environmental advantages, appear as follows:

Draw-a-Man Testing	Number	Preschool Inventory	TOBE Lang.	TOBE Math.
December	111	.53	.41	.52
May	78	.40	.47	.46

It is apparent that there is a fairly strong relationship between the Draw-a-Man performance and the other measures. This relationship was a little higher in December for the Preschool Inventory and for the TOBE Math than it was five months later, in May. For TOBE Language, on the other hand, the relationship for the two increased slightly between December and May.

Conclusions

1. There were no significant differences between the experimental and control groups on our socioeconomic indicator, the HIS and in the chronological age of the child.
2. The kindergarten group made exceptionally significant gains from pre-test to post-test on the Preschool Inventory, the Draw-a-Man and the TOBE Tests.
3. The kindergarten group scores significantly higher than the control group on the Preschool Inventory, the Draw-a-Man, and on the TOBE tests.

4. There was a strong relationship between test scores and socioeconomic data.
5. Differences between boys and girls were seldom significant, but favored the girls in cases that were statistically significant.
6. Classroom teacher ratings and LINC observers were in agreement as to positive behavioral changes which took place within the classrooms.

To these results another important one should be added.

The parents of the children involved in the kindergarten program were most enthusiastic about its benefits, as indicated in a survey conducted by Mr. J. W. Jenkins, Supervisor of Early Childhood Education Division of the State Department of Public Instruction.

CHAPTER V

Summary and Recommendations

CHAPTER V

Summary and Recommendations

The evaluation of the 1969-70 North Carolina state supported kindergarten program was designed to show, as well as possible, the effect that such programs had on five-year-old children. The first year evaluation was in some ways handicapped; first, children were enrolled from December, 1969, to May, 1970, only. Second, the initial year of any program and of any evaluation thereof is a shake down year and many kinks need to be worked out. We did, however, get an initial year study completed and were able to reach some basic conclusions concerning the effect of the program.

A pre-post test evaluation design was adopted using experimental and control groups drawn randomly from applications to the eight demonstration centers. There was no strict control over the "treatment" or kindergarten classroom curricula so we could not consider our study to be researched. We hoped to show that kindergarten experience was better for children than the absence thereof. Our evaluation was political to the degree that we wished to show North Carolina legislators that the allocation of the first million dollars of state supported kindergartens resulted in children being better prepared to enter regular school.

In addition, it was the desire of the State Department of Public Instruction and the Learning Institute of North Carolina to use the opening and development of the kindergarten to improve the quality of education for children through the entire primary (K-3)

range. Many of the eighteen centers operating now are trying out new approaches and new classroom organizations to provide a rich and open environment for young children's development. The changes have already reached the children through eight years old and in fact several of the centers are planning now to extend improvements to upper elementary grades.

Our study demonstrated, first, that children made significant gains during the 5-month period of attendance at kindergarten, and, also, that most of their performances at the end-of-school testing were significantly higher than an equivalent group of children who did not attend kindergarten.

1. The experimental group (n=317) moved from approximately the 35th to the 65th percentile on the TOBE test of knowledge in the four areas of language, mathematics, social studies and science. Stated another way, at the beginning of kindergarten two-thirds of the national sample scored better on the TOBE tests than the experimental group's average. At the end of the program the experimental group's average was in the top one-third of the national sample's scores.
2. The control group (n=52) average in May, 1970, equalled approximately that of the experimental group in December, 1969, on all forms of TOBE tests.
3. On the Draw-A-Man test, using the Vane Scoring Scale, the experimental groups average mental age increased two months for each one month enrolled in the program. (M.A. of 5-1 in December to 5-11 in May.)

4. On the same test in May the control group showed an average mental age of 5 years-8 months.
5. On the Preschool Inventory the experimental group improved from a mean score of 46 in December, 1969, to a score of 57 points in May, 1970.
6. On the Preschool Inventory the control group's average for May was 48 raw score points, not significantly different from the experimental group average in December, 1969, but significantly lower than the May average.

The second year of the kindergarten evaluation is presently underway. We are employing approximately the same evaluation design with the addition of a fall testing of the control group so that there will be before and after measures for both groups. For 1970-71 there are approximately 720 experimental subjects and 220 in the control group. These control subjects are individually tested by trained personnel employed by LINC. We have a full nine months of treatment and somewhat better control of the management of data.

Further, during the 1970-71 evaluation of five-year-olds we are also assessing six year olds who were in last year's experimental and control groups.

It is anticipated that some 3.3 million dollars may be appropriated by the North Carolina General Assembly for the next biennium to continue and expand programs of early childhood education. It is our desire to continue the evaluation of five-year-old children as well as testing six and seven-year-olds who have been

involved in these studies. Thus the monitoring of the early childhood program will continue, so that this innovative program can remain accountable to those who are supporting it and observing its progress.

APPENDIX A

Classroom Behavior Inventory

by Schaefer and Aaronson

APPENDIX A

TEACHER RATING OF CHILD BEHAVIOR

MODIFIED FROM
CLASSROOM BEHAVIOR INVENTORY

developed by

Earl S. Schaefer
May Aaronson

National Institute of Mental Health

NAME OF STUDENT_____ DATE_____

SCHOOL_____ TEACHER_____

RATER_____ CIRCLE: TEACHER OR TEACHING ASSISTANT

or other_____

INSTRUCTIONS

Please describe as accurately as possible how the above student behaves by circling one of the four responses to each question:

4 - Very frequently present (more than once every day)
3 - Frequently present (about once a day--some days more often)
2 - Sometimes (once a week or a little more often)
1 - Very infrequently (almost never as much as once a week, or never any of this)

Please give a response to every item and BASE YOUR RESPONSE UPON YOUR PERSONAL OBSERVATION with the pupil. Please do not confer with anyone else about the student before completing this form.

	VERY Freq.	Freq.	Some-times	Very Infreq.
1. Talks readily about his toys, clothes, what he is doing, etc.	4	3	2	1
2. Moves from one area of the room to another frequently.	4	3	2	1
3. Takes up for and tries to protect one whom others pick on.	4	3	2	1
4. Plays alone unless he's induced to play with others.	4	3	2	1

	VERY Freq.	Freq.	Some-times	Very Infreq.
5. Works several minutes to finish a task he has begun: painting, solving a puzzle, etc.	4	3	2	1
6. Gets annoyed for trivial reasons.	4	3	2	1
7. Does not wait for others to approach him, but makes the first friendly move.	4	3	2	1
8. Does not finish a project or game because he has lost interest.	4	3	2	1
9. Does not take toys or equipment another child is using.	4	3	2	1
10. Has a low or unsteady voice when speaking before a group. (Group = three or more persons)	4	3	2	1
11. Centers his attention on task he is doing; and if distracted returns to task.	4	3	2	1
12. Sits and sulks if he has been reproved.	4	3	2	1
13. Begins a conversation with another child.	4	3	2	1
14. Twists, turns, or gets up from his chair.	4	3	2	1
15. Brings materials, toys, a cup of water, etc. to another.	4	3	2	1
16. Fails to join in activities with others of his own accord.	4	3	2	1
17. If one effort to do a job is unsuccessful, tries again.	4	3	2	1

	Very Freq.	Freq.	Some-times	Very Infreq.
18. Whines and complains if others won't give him his way.	4	3	2	1
19. Makes an attempt to get others to play with him, join in an activity with him, etc.	4	3	2	1
20. Does not complete a task or errand because other things have captured his attention.	4	3	2	1
21. Is careful not to disturb an activity of another.	4	3	2	1
22. Avoids looking an adult in the face - turns his head or looks down when an adult talks to him.	4	3	2	1
23. Remains quietly at work, even with noises and other activities around him.	4	3	2	1
24. Remains angry for some minutes after a quarrel.	4	3	2	1
25. Has something to say in group discussions.	4	3	2	1
26. Fails to sit still and listen to a story for very long.	4	3	2	1
27. Readily forgives those who have picked on him, taken his belong-ings, etc.	4	3	2	1
28. Works alone, leaves an activity if other children join him.	4	3	2	1
29. Is reluctant to leave a project he has begun.	4	3	2	1
30. Is inclined to flare up if he's teased or picked on.	4	3	2	1

	Very Freq.	Freq.	Some-times	Very Infreq.
31. Joins a group of his own accord (during games, free time, etc.)	4	3	2	1
32. An outside activity or noise distracts his attention from what the teacher is saying to him or to the group he is in.	4	3	2	1
33. Awaits his turn willingly.	4	3	2	1
34. Becomes less effective and skillful in his work when being observed.	4	3	2	1
35. Becomes so absorbed in what he is doing, he may not hear you talk to him.	4	3	2	1
36. Sulks and won't participate in activities when not given his own way.	4	3	2	1
37. Talks about the things that happen to him.	4	3	2	1
38. Squirms, taps his foot or fingers, or is constantly changing his position while attempting to perform a task.	4	3	2	1
39. Smiles at or greets a child.	4	3	2	1
40. Engages in a solitary individual activity.	4	3	2	1
41. Sticks to a task until it is finished.	4	3	2	1
42. Gets in a temper if he can't have his way.	4	3	2	1
43. Approaches others and invites them to play or work with him.	4	3	2	1
44. Centers attention only briefly on what he is doing, then starts something else.	4	3	2	1

	Very Freq.	Freq.	Some-times	Very Infreq.
45. Lets others go first, holds doors open, tries not to block their way.	4	3	2	1
46. Speaks to the teacher in low uncertain tones with much effort.	4	3	2	1
47. Gives close attention to a toy or activity that catches his interest.	4	3	2	1
48. Angry when required to wait his turn or share with others.	4	3	2	1
49. Is quick to make a comment or ask a question about activities going on in the classroom.	4	3	2	1
50. Runs about aimlessly.	4	3	2	1
51. Speaks soothingly, pats or otherwise comforts a child who is hurt or unhappy.	4	3	2	1
52. Goes off by himself when others are gathering to sing, dance or play together.	4	3	2	1
53. Will work with a form board, puzzle, or other "achievement" toys for a long period of time, trying to complete it or get it right.	4	3	2	1
54. Gets impatient and unpleasant if he can't get what he wants when he wants it.	4	3	2	1
55. Mixes freely with a group.	4	3	2	1
56. Easily distracted from his own work by the various activities of others.	4	3	2	1

	Very Freq.	Freq.	Some-times	Very Infreq.
57. Is quick to say "thank you", or show his appreciation.	4	3	2	1
58. Shows less strain and is more relaxed if others try not to notice him.	4	3	2	1
59. Quickly becomes lost in his work and is aware of other happenings in the classroom.	4	3	2	1
60. Slow to forgive when offended.	4	3	2	1

DIRECTIONS FOR COMPLETING THE SCORING SHEET OF THE TEACHER RATINGS OF CHILD BEHAVIOR

1. Fill in the child's name, date, school and rater(s).
2. Note that the item scores are places vertically in numerical order. Each number corresponds to the same number on the Teacher Rating of Child Behavior (pink form).
3. This sheet is for entering, in one place, the ratings given for each child on the sixty item Teacher Rating of Child Behavior. Take the pink form for one child and enter the number circled by the rater for that item. The small numbers under "Item Scores" indicate where you are to enter the rating on each item.
4. Carefully copy ratings onto the scoring sheet.
5. Compute the total score for each row on the far right hand side of the sheet.
6. That's all!

THANKS

LINC

1970

SCORING SHEET FOR TEACHER RATING OF CHILD BEHAVIOR

(Child's Name) _____ (School) _____ (Date) _____

(I.D. Number) _____ (Person or Persons who make ratings) _____

	(Transfer circled numbers from CBI items to appropriate boxes)					TOTAL SCORE
1. Verbal Expressiveness	1	13	25	37	49	1
2. Hyperactivity	2	14	26	38	50	2
3. Kindness	3	15	27	39	51	3
4. Social Withdrawal	4	16	28	40	52	4
5. Perseverance	5	17	29	41	53	5
6. Irritability	6	18	30	42	54	6
7. Gregariousness	7	19	31	43	55	7
8. Distractibility	8	20	32	44	56	8
9. Considerateness	9	21	33	45	57	9
10. Self-consciousness	10	22	34	46	58	10
11. Concentration	11	23	35	47	59	11
12. Resentfulness	12	24	36	48	60	12

CLASSROOM BEHAVIOR INVENTORY
(FORM FOR PRE-SCHOOL TO EARLY PRIMARY)

Early S. Schaefer
May Aaronson
Laboratory of Psychology
National Institute of Mental Health

1. VERBAL EXPRESSIVENESS

1. Will readily talk with you about this toys, clothes, what he is doing, etc.
13. Begins a conversation with another child who moves near him.
25. Always has something to say in group discussions.
37. Likes to talk about everything that happens to him.
49. Is among the first to make a comment or ask a question about class activities.

2. HYPERACTIVITY

2. Moves from one area of the room to another frequently.
14. Frequently is twisting, turning or getting up from his chair.
26. Will not sit still and listen to a story for very long.
38. Squirms, taps his foot or fingers, or is constantly changing his position.
50. Likes to run about aimlessly.

3. KINDNESS (passive helpfulness)

3. Takes up for and tries to protect one whom others pick on.
15. Brings materials, toys, a cup of water, etc. to another.
27. Readily forgives those who have picked on him, taken his belongings, etc.
39. Smiles at or greets any child he meets.
51. Speaks soothingly, pats or otherwise comforts a child who is hurt or unhappy.

4. SOCIAL WITHDRAWAL

4. Plays alone unless he's induced to play with others.
16. Rarely joins in activities with others of his own accord.
28. Prefers working alone, leaves an activity if other children join him.
40. Usually is engaged in a solitary individual activity.
52. Goes off by himself when others are gathering to sing, dance or play together.

7/66

5. PERSERVERENCE (goal directed)

5. Works a long time to finish painting a picture, solving a puzzle, etc.
17. If one effort to do a job is unsuccessful, will try again.
29. Is reluctant to leave a project he has begun.
41. Nearly always sticks to tasks until they are finished.
53. Will work with a form board, puzzle, or other "achievement" toy for a long period of time, trying to get it right.

6. IRRITABILITY

6. Gets annoyed for trivial reasons.
18. Whines and complains if others won't give him his way.
30. Is inclined to flare up if he's teased or picked on.
42. Frequently gets in a temper if he can't get what he wants when he wants it.

7. GREGARIOUSNESS

7. Does not wait for others to approach him, but makes the first friendly move.
19. Seeks others out to get them to play with him, join in an activity with him, etc.
31. Joins a group of his own accord (during games, free time, etc.).
55. Mixes freely with a group and obviously enjoys group companionship.

8. DISTRACTIBILITY

8. Frequently does not finish a project or game because he has lost interest.
20. Often does not complete a task or errand because other things have captured his attention.
32. Any outside activity or noise can distract his attention from what the teacher is saying.
44. Centers attention only briefly on what he is doing, then starts something else.
56. Easily distracted from his own work by the various activities of others.

9. CONSIDERATENESS

9. Will not take toys or equipment another child is using.
21. Is careful not to disturb an activity of another.
33. Awaits his turn willingly.
45. Lets others go first, holds doors open tries not to block their way.
57. Is quick to say "thank you," or show his appreciation.

10. SELF CONSCIOUSNESS

10. Has a low or unsteady voice when speaking before a group.
22. Will not look an adult in the face--will turn his head or look down.
34. Becomes less effective and skillful in his work when being observed.
46. Speaks to the teacher in low, uncertain tones with much effort.
58. Shows less strain and is more relaxed if you try not to notice him.

11. CONCENTRATION

11. Centers his attention on what he is doing; and nothing seems to distract him.
23. Remains quietly at work, even with noises and other activities around him.
35. Becomes so absorbed in what he is doing, he may not hear you talk to him.
47. Gives undivided attention to a toy or activity that catches his interest.
59. Quickly becomes lost in his work and is unaware of other happenings in the classroom.

12. RESENTFULNESS

12. Sits and sulks if he has been reproved.
24. Remains angry a long time after a quarrel.
36. Sulks and won't participate in activities when not given his own way.
48. Angry when required to wait his turn or share with others.
60. Slow to forgive when offended.

HIERARCHIAL STRUCTURE OF THE CLASSROOM BEHAVIOR INVENTORY
(Form for Preschool to Early Primary)

Molar, abstract → Concrete, specific

	Dimensions (3 Factors)	Traits (12 Scales)	Specific Behaviors (60 Items)
Classroom Adjustment	Extraversion vs. Introversion	Verbal Expressiveness Gregariousness	Always has something to say in group discussions.
		Social Withdrawal Self-Consciousness	Rarely joins in activities with others of his own accord.
	Love vs.	Considerateness Kindness	Is careful not to disturb an activity of another.
	Hostility	Resentfulness Irritability	Sits and sulks if he has been reproved.
	Positive Task-Oriented vs.	Perseverance Concentration	Nearly always sticks to tasks until they are finished.
	Negative Task-Oriented	Hyperactivity Distractibility	Frequently is twisting, turning or getting up from his chair.

APPENDIX B

Development of Short Form Home Information Scale

APPENDIX B

DEVELOPMENT OF SHORT FORM

HOME INFORMATION SCALE

One of the problems in research in early elementary education is getting an accurate measure of the home environment of each child. Connie Kami and Norma Radin developed such a measure, the Home Environment Scale, for the Perry Pre-school project at Eastern Michigan University. Such an instrument has two purposes. First, it is useful for the teacher to get to know the child, his parents, and the home situation. Secondly, it is useful in statistically equating groups of children with different socio-economic backgrounds so that achievement test scores may be somewhat more accurately compared.

The Home Environment Scale served both of these purposes. It was made up of 34 scoreable questions which attempted to specifically measure the level of cognitive stimulation in the home. The scale was organized as a structured interview. A complete administration of the scale took about forty minutes in its intended informal situation.

Because of the large amount of work which teachers had at the beginning of school, it became advisable to shorten the scale. From the table that follows it can be seen that the original scale was closely related to several of the tests given in the North Carolina Study.

PEARSON CORRELATION I N=111

PRESCHOOL INVENTORY----------.59

TOBE:

Language----------.45

Social Studies----------.53

Math----------.48

Science----------.54

DRAW-A-MAN----------.35

EXTROVERSION (CBI-Behavior Rating)----.37

All of the above correlation are significant at the .01 level. Because the scale appeared to be strongly related to these measures in which we were interested, we decided to do an item analysis, which would allow us to shorten the instrument and maintain high internal consistency. The results of the analysis are as follows on the next page:

PEARSON CORRELATION II N=117

BETWEEN ITEM AND TOTAL SCORE

ITEM	CORRELATION 1	2	ITEM	CORRELATION 1	2
15	.27*	NA	32	.11	
16	.32		33	.28	
17	.46*	.42	34	.48*	.43
18	.26*	.39	35	.41*	.43
19	.33		36	.62*	.68
20	.08		37	.59*	.68
21	.31		38	.28	
22	.49*	.53	39	.09	
23	.44		40	.29	
24	.54*	.63	41	.23	
25	.36		42	.03	
26	.40		43	.59*	.66
27	.38*	.45	44	.56*	.60
28	.48*	.49	45	.34	
29	.23		46	.40	
30	.17		47	.22	
31	.15		48	.24	

NA - not available

The items which were chosen are starred. Not all items with the highest correlations were used. Besides high correlations, two other considerations entered into the selection of items. The one consideration was that the item should be easily scored according to an objective

scoring system. Secondly, we wanted to collect that information which was most useful to classroom teachers.

These items which make up our current Home Information Scale have fairly low intercorrelations, only three of which were greater than 0.39. The item correlations with the total are listed under Correlation #2 on the previous table. The scale which resulted from the above procedure takes about fifteen minutes in an informal interview. It has been most satisfactory for our purposes in the North Carolina Kindergarten Study. The means for 117 children, a randomly selected group which was part of that study, was 39.8, with a standard deviation of 9.3.

HOME INFORMATION SCALE

LEARNING INSTITUTE OF NORTH CAROLINA

Instructions for Interviewer:

1. Explain that you have come because of their child who is to enter kindergarten in September, 1970. Verify the child's name and what they usually call (him or her), and use the name in each question where there appears a blank line.

2. Explain that the information about their child's home and family life is to be kept confidential. Urge the respondent to feel free not to reply to any question which she prefers not to answer.

3. Hand the respondent a blank form to follow along as you ask questions and record answers.
Be sure to collect the form and take it with you when you leave.

4. Please take time to write answers clearly.

A. _____ SCHOOL SYSTEM

B. _____ DATE

C. _____ NAME OF SCHOOL

D. _____ NAME OF INTERVIEWER

E. _____ NAME OF CHILD

F. _____ EXPER. OR CONT.

G. _____ NAME OF PARENTS OF GUARDIAN

H. _____ NAME OF PERSON INTERVIEWED

I. _____ ADDRESS, NO., ST. AND CITY

J. _____ TELEPHONE

K. _____ OCCUPATION OF FATHER (as specific as possible)

L. _____ OCCUPATION OE MOTHER

ID 1 2 3 4 5 6 7 8 9 10 11 12 13

M N O P Q R S T U V W X Y

BIRTHDATE _____ SEX _____ RACE _____

_____ M. How long has _____attended any of the following schools?

Head Start _____ _____ or Not at all
Mo & Yr. Began Mo. & Year Ended

Day Nursery _____ _____ or Not at all

Kindergarten _____ _____ or Not at all
(private or other)

Other: _____

_____ N. Does _____ live with both of his natural parents? _____
Yes or No

If no, please explain whom he lives with:

_____
adoptive parents, grandparents, mother only, mother and step-father, etc.

Schooling of _____'s parents: (or adult he lives with)

_____ O. Highest grade father completed: _____

_____ P. Highest grade mother completed: _____

_____ Q. Please list all of the brothers and sisters of _____ together with their ages.

Include _____in his proper place in the family.

NAME AGE

_____

_____

_____

_____

_____

_____ R. Please tell me which ones of these your family owns (check if "yes"):

___TV set	___Record Player	___Vacuum cleaner
___Telephone	___Dictionary	___Receive a daily
___Automobile	___Encyclopedia	newspaper

_____ S. Does any member of your family have a library card?

_____
Yes or No

Would you say that this card is used:

_____a. Less often than once a month

_____b. About once a month

_____c. About once a week

_____ T. What magazines do you have in your home at present?

_____ _____ _____

Does _____ usually look at any of these? _____
Yes Or No

_____ U. Are any of these things available for _____to use at home at present? (Check if yes)

___a. paste	___e. paper cut-outs	___i. play-dough
___b. paper	___f. books	___j. scissors
___c. paints	___g. ruler	___k. pencils
___d. coloring books	___h. crayons	___l. other (specify)

_____ V. Do you read books to _____? _____
Yes or No

b. If yes, what are some of these books, 2 or 3 favorites:

_____

c. If yes, how often do you read to (him or her)? Say, how many times a week?

_____

_____ W. (If husband is in household) What are some of things your husband does with _____on weekdays?

_____

On weekends?

_____

_____ X. How much schooling would you like _____to receive?

_____

_____ Y. How much schooling do you expect _____ to receive?

_____

MANY THANKS AND OUR BEST WISHES FOR YOU AND YOUR NEW KINDERGARTENERS!

Z. Interviewer: Please remember to take the blank form with you.

1970

Short Form
HOME INFORMATION SCALE
Scoring Key

M. 0 = None of any kind
2 = At Least one kind, regularly, for a period of at least a week
4 = More than one kind, regularly, for a period of at least one month each

N. 0 = Anything else but child living with at least one of his natural parents
2 = Child lives with one natural parent
4 = Child lives with both natural parents

O & P 0 = 8th grade or less
2 = attended high school but did not graduate
4 = completed high school
5 = technical institute
6 = attended college
8 = completed college
9 = further formal study beyond college graduation

Q. Child we are interviewing about is:
0 = Any position in family except first or last
2 = First child in family (oldest), or last child (youngest) or only child

R. Write in actual number of items owned by family.

S. 0 = No care
2 = Little use (less than once a month)
4 = Frequent use (once a month or more)

T. 0 = No magazines in home
2 = One or two
4 = Three or more

U. 0 = Two items or less available for child to use in home
2 = Three to six items
4 = Seven or more items

V. 0 = Mother does not read books to child
2 = Mother reads books a little, about once a week
4 = Reads books several times a week

W. 0 = No father living with child, or almost nothing mentioned which they do together.
2 = Some activities are mentioned, but not of a kind to stimulate child's interest and learning.
4 = Father and child doing something where child is apparently learning and interested more than once a week.

Short Form
HOME INFORMATION SCALE
Scoring Key
Page 2

X. 0 = Some high school or hasn't thought about schooling she wants child to receive
2 = complete high school or as much as ne can
4 = some college or go to college
6 = specifies graduate from college or finish college

Y. 0 = Some high school, or less is amount of schooling sne expects for her child
2 = complete high school
4 = some college or go to college
6 = graduate from college or finish college

APPENDIX C

Draw-a-Man

APPENDIX C

EXAMINER:

Place the paper with the Forms in front of the child so it is in a vertical position with the printed side up (with the straight line in the upper left hand corner, the square at upper right, etc.)

Say: NOW I'D LIKE YOU TO MAKE SOME DRAWINGS LIKE THIS.

(Point to the models and hand him a soft pencil.)

Wait until he finishes his line, then say:

NOW ONE LIKE THIS. (Point to space below circle.)

Wait until he finishes his circle, then say:

AND NOW THIS ONE. (Point to space below square.)

Wait until he finishes his square, then say:

MAKE ONE LIKE THIS. (Point to space below triangle.)

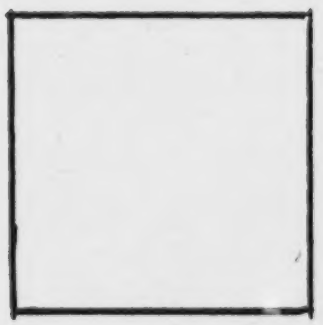
Then help child turn the page over to the blank side and say:

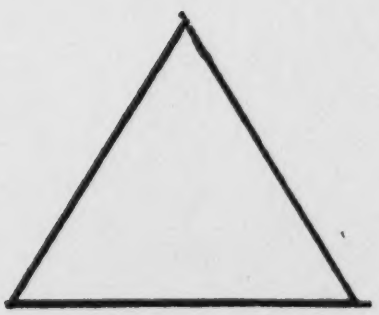
NOW, ON THIS PAPER DRAW ME A MAN - DRAW ME THE BEST PICTURE OF A MAN THAT YOU CAN.

Take the pencil from the child and write his first and last name on the top of the sheet with his drawing of a man.

DRAW-A-MAN

Last Name _____ First Name _____





APPENDIX D

Student Profile

PROFILE - KINDERGARTEN ASSESSMENT PROGRAM

Name _____ Teacher _____ Date _____

AGE	4-11	5-0	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9	5-10	5-11	6-0
Draw A Man	3		4		5		6	7		8	9	10	11	12	13
Preschl. Inv.	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
TOBE Math	12	13	13.5	15	16	17	18	18.5	20	21	22	23.5	24	25
TOBE Lang.	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
TOBE Sci.	11	12	12.8	14	15	16	18	18.2	19	21	22	23.6	24	25
TOBE S.S.	10	11	11.6	13	14	15	16	17.3	18	19	20	21	23	24	25
Home Inf.S.		24	27	30		33		35		37		40	43	46	

One S. D. Below — Average (Mean) Score — One S. D. Above

TEACHER BEHAVIOR RATING

Extroversion-Introversion

-12	-9	-6	-3	0	3	6	9	12	15	18	21	24	27	30

Positive Social Behavior-Social Hostility

-15	-12	-9	-6	-3	0	3	6	9	12	15	18	21	24	27	30	33

Positive Task-Oriented Behavior vs. Negative Task-Oriented Behavior

-19	-16	-13	-10	-7	-4	-1	2	5	8	11	14	17	20	23	26	29

APPENDIX E

Preliminary Report

NOTE: The 2-page Preliminary Report of the Learning Institute of North Carolina, "Kindergarten Evaluation" by Betty Landsberger is not available for reproduction at this time. It may be obtained from North Carolina Public Schools Magazine; Vol. 35, No. 2 (Winter 1970) North Carolina Department of Public Instruction. A more comprehensive presentation of this kindergarten data may be obtained by writing LINC, 1006 Lamond Ave., Durham, N.C. 27701.

APPENDIX F

Characteristics of Demonstration Center Programs

APPENDIX F

CHARACTERISTICS OF DEMONSTRATION CENTER PROGRAMS*

The following paragraphs present a description of the practices which most, and sometimes all, of the North Carolina Early Childhood Demonstration Centers have carried out during the 1969-70 school year as they have begun the task of implementing the guidelines set out for them by the State Board of Education on July 3, 1969.

NUMBER OF CHILDREN PER GROUP: Twenty children per classroom of five-year olds with two adults (one teacher and one assistant-teacher) per group.

HOW SELECTED: According to "Selection Procedure for 5-Year Old Children" attached, in order to achieve a group representative of the population served by the school as to racial composition and within each racial group an even distribution of the variables of socio-economic status, sex, and age.

BEGINNING THE YEAR: Arrangements need to be made so that the staff of the kindergarten have at least a three-week period to work on preliminaries of home visits, get-acquainted visits by children and parents to the school, and the pre-entrance testing and parent interviewing, as well as the obtaining and arrangements of materials and equipment for classroom use. (Actually, much of the equipment and materials will need to be ordered far ahead, since many of the Centers this year have found that delivery times can be as long as two or three months on important items.)

An additional point is that when the children begin regular attendance, the pattern generally followed is to have a gradual-entrance policy, which sometimes extends over a period of two weeks or so. This involves beginning with a fairly small group of children and adding to it a few children per day until finally the total group is in regular attendance.

EDUCATIONAL PHILOSOPHY: A quote from a speech of James Jenkins, State Supervisor of Early Childhood Education, expresses well the goals for children of the North Carolina Program:

> As State supported Early Childhood Education Programs are developed, they will be designed to emphasize problem solving, creativity, decision making, manipulative activities, self-image development, and a joy and love for learning.

*Prepared for N.C.E.C.E. Meeting, April 19, 1970.

FACILITIES: The classrooms and playgrounds are of the best quality possible as to space, light, health and safety, attractiveness, and "child-centeredness." Valuable consultation services were given the 1969 Centers by Dr. Marvin Johnson of the Office of School Planning at the State Department of Public Instruction.

EQUIPMENT AND MATERIALS: The equipment and materials for use outdoors and indoors are selected in order to provide a wide variety of learning experiences for a wide range of maturity levels and a diversity of learning styles. Decisions regarding material and equipment necessary have been guided by the principles of child behavior, development and learning subscribed to by a variety of national leaders in the Early Childhood Area today, among others: J. McV. Hunt, Martin Deutsch, Glen Nimnicht, David Weikart, Marie Hughes, James Hymes, David Elkind, and Susan Gray.

EDUCATIONAL PROGRAM: The Program is developed in each Center in order to implement the goals as they are stated in the paragraph on philosophy. Teachers set instructional objectives in all areas -- the social, emotional, and physical, as well as the intellectual area -- in terms of their best assessment of the child's present status and learning modalities. The observational and testing program provide the teachers with material for making well-informed decisions. Individuality is encouraged, and the staffs are prepared for and comfortable with the diversity of ability levels, interests, and learning styles which they expect to find in their groups. Obviously much planning time is needed on the part of teachers and assistants, and they do plan and evaluate together regularly for their work with children.

STAFF: Some important requirements sought in the staffs for the Centers are willingness and ability to work closely in a diversified-staff situation, and with children of different ages together. Also important are the ability and willingness to create learning environments and perform work with children to implement the objectives given in the statement of Philosophy above. One might even say in the words of that statement that teachers are sought who exhibit "A joy and love for children and their learning."

In addition, there needs to be ability and willingness to perform the other Center functions of encouraging and promoting parent involvement; training persons at all levels, from volunteers to other teachers in in-service work; skills and knowledge for participating in and making use of information from evaluation programs; and energetic programs of dissemination of information about early childhood education. It should be pointed out that all functions have been carried out by the entire team of teachers, assistant teachers, working together with principal, supervisor, and others of the system.

A variety of training backgrounds has been present in the present Center staffs, and this variety has proved to be valuable in the implementation of the several functions: some of these specialities in addition to education are music, nursing, child development, social work, and experience in private nursery schools and kindergartens.

LENGTH OF CHILDREN'S DAY: A half-day of attendance -- from 8:15, 8:30, or 8:45 to 12, 12:15 or 12:30 -- is not only optimum from the standpoint of five-year olds but is the pattern of school attendance which leaves the teachers the time necessary for planning their work with children and carrying out the other demonstration center functions: parent contacts; training or the groups of visitors and the personnel with other long-term contacts like student teachers, high school classes, and student-teachers from university programs; dissemination activities with local press, radio, and TV, and talks with community groups; and contacts with other child-related agencies and other levels within the educational system.

It should be stated that while a case can be made for longer attendance from the standpoint of child-care needs, the decision has been made to devote these centers primarily to educational programs and to concentrate all efforts on doing a good job there.

Until multi-aged groups become a common pattern, the kindergarten facilities will undoubtedly be used frequently for older children in afternoon hours in ways already developed in several of the eight existing Centers. The kindergarten staffs in these Centers, in this and other ways, have taken the responsibility for developing a working team relationship with the teachers of the first, second and third grades in their schools.

TRANSPORTATION: Patterns vary from one to another of the eight existing Centers, and much transportation is handled by the parents of the children, but many of the children in most Centers are transported to and from kindergarten on the school buses, with the local system assuming the cost of the trip to take children home at mid-day.

FOOD SERVICE: In most cases food service consists of a mid-morning snack, but in several of the Centers it has been felt that for nutritional reasons it was necessary to supplement the children's diet at school (some, and not all of any group, of course, were found to be needful in this respect). In some Centers an early "Breakfast" snack is served, and in some, all of the children, in others, some of the children eat their lunch at school.

CHILD STUDY ACTIVITIES: The activities of testing, interviewing, observation, and interpretation of the data gathered about the children forms a substantial part of the staff activities. This is basic to individualized school experience and to the evaluation of the effectiveness of experiences planned for individuals as well as for groups. (See the separate folder entitled "Initial Assessment in the North Carolina Kindergarten Program -- 1969-1970.")

ARRANGEMENTS FOR NECESSARY STAFF ABSENCES: Success in the Program development which the school staffs are called upon to do in the Demonstration Center Program necessitates contact with work in other places, not only through books and films but also through visits in other schools within North Carolina and in nearby areas. This visiting calls for working out means for freeing of primary as well as kindergarten teachers and the existing Centers have worked out means for this by the use of aides, parents, volunteers, and sixth-graders, and other innovations.

APPENDIX G

Map of Early Childhood Demonstration Centers

STATE SUPPORTED KINDERGARTEN/EARLY CHILDHOOD
DEMONSTRATION CENTERS